10. Myadora Pandoræformis. *Anatina Pandoræformis*, Stutchbury, Zool. Journ. vol. v. p. 99; Tab. Supp. xliii. f. 3 and 4. Conch. Iconica, *Myadora*, pl. 1. f. 10.

The *Myadoræ striata, brevis*, and *Pandoræformis* are the only species of the genus at present known to have the clavicle.

The Secretary called the attention of the Meeting to a specimen of the Two-toed Sloth, *Bradypus didactylus*, which was now in the Gardens, and requested Mr. Ball, Secretary to the Royal Zoological Society of Ireland, to communicate such particulars connected with the habits and manners of this curious animal as had fallen under his observation.

Mr. Ball regretted that it was out of his power to state the exact locality from which the animal had been obtained; however, he had reason to believe that it was brought from Demerara.

Its general food was sea-biscuit and water; of fruit it partook sparingly, but he had observed it pick the young buds of the hawthorn flowers and eat them with great avidity.

While in the Zoological Gardens at Dublin its favourite position was where it was supported partly by the branch to which it clung, and partly by an adjoining branch on which its back could rest.

In lapping water, the great length to which its tongue was protruded was very remarkable, thereby showing its affinity to the other *Edentata* of South America.

BOTANICAL SOCIETY OF EDINBURGH.

This Society held its first meeting for the session on Thursday the 12th of December 1844, Dr. Seller in the Chair.

Numerous donations to the library and museum were announced, particularly from Dr. Fraser, Algoa Bay, eleven volumes of botanical works and specimens of Cape woods and plants. From the Rev. J. E. Leefe, the second Fasciculus of his 'Salictum Britannicum Exsiccatum.' From Dr. Dewar, Dunfermline, plants from the river Congo, &c. From Mr. Charles Lawson, jun., plants from the Rocky Mountains, &c. The thanks of the Society were voted to the respective donors.

The following communications were read:—

1. "Notice of the discovery of *Alsine stricta* in Teesdale," by Messrs. J. S. Gibson and J. Tatham, jun.

2. "On the genus *Spirulina*," by Mr. Ralfs. One species only, the *S. tenuissima* (Kutz.) was described. [This paper will shortly appear in the 'Annals,' and in the forthcoming series of the Society's Transactions.]

3. "Notice of the discovery of *Cirsium setosum*, Bieb., near Culross," by Dr. Dewar. [Notices of the discovery of this and of *Alsine stricta* have already appeared in the 'Annals of Natural History.']

4. "Journal of a Tour through part of the United States and the Canadas" (continued), by Mr. James M'Nab.

In the last part of this paper, read before the Society, Mr. M'Nab

gave an account of the botanical features of the country in the neighbourhood of Stillwater, and concluded with an examination of the woodland grounds in the vicinity of Whitehall; the present portion embraces the journey from the latter place to Montreal.

"The southern extremity of Lake Champlain is winding and narrow, having considerable tracts of level ground extended on each side. The woods for the first sixteen miles are very various, the principal trees being the wild cherry (*Prunus virginiana*), elms, walnuts, sugar-maple, and the aspen poplar (*Populus tremuloides*). The rocky grounds overhanging the lake were densely clothed with the Arbor vitæ. After having fairly entered upon the expanse of the lake, the appearance of the lofty white or Weymouth pines (*Pinus Strobus*), towering above the deciduous trees, along the rising grounds at the base of the hills, was remarkable; most of them being destitute of branches, which gave them more the appearance of palms than pines. About Essex, half-way along the lake, it widens, and all at once the wooded rocky land by the water's edge is changed for a rich champaign. The fields of the different farms being laid off in squares, and each farmstead having a large orchard attached to it, render this tract very interesting. The soil seemed a light-coloured clay, and the wood on the lower grounds was not very plentiful; but the rising grounds behind were closely studded with scraggy pines.

"Near the northern extremity the lake contracts: by this time we had entered upon Lower Canada. The country here presented a totally different appearance, owing to the dense dark masses of pines, elms and spruces, which covered a vast extent of the country, and having every here and there, along the edge of the lake, rustic but picturesque log-houses, inhabited by French Canadians, employed in felling the timber, dressing and carrying it to the lake for the purpose of being floated down to the harbour at Lapraire, on the St. Lawrence river, for exportation. On reaching St. John's, the northern extremity of Lake Champlain, the forests presented the same appearance as they did when we first entered the lake, with the addition of the balm of Gilead fir, *Abies balsamifera*: numbers of this tree were seen covering the drier grounds; the largest observed did not exceed thirty feet in height and four feet in circumference. On the dry surface of these woods, the spice-root, *Dalibarda repens*, formed exceedingly beautiful tufts, resembling in its ground-clothing propensity the *Epigæa repens*, as seen in the New Jersey forests. The sugar-maple, *Acer saccharinum*, is here in greater quantities, and attains a larger size than hitherto noticed, and notwithstanding the great mutilation to which they are yearly subjected in spring, for their sap, which is here extensively used in the manufacture of sugar, appears in the most perfect state of health.

"At St. John's we picked in the swampy grounds and in the shallow water by the edge of the lake, luxuriant flowering specimens of the sweet flag, *Acorus Calamus*, *Iris versicolor* and *Utricularia vulgaris*. In drier soil, the *Eupatorium verticillatum* was the chief plant in flower, and covered a great extent of ground.

"Passing onwards to Lapraire, the only tree of any interest and

deserving of notice was the canoe birch, *Betula papyracea*. Several compact masses of these trees, evidently of the second growth, occupied the lower grounds; but from their closeness none had attained a great size. Large trees must exist in the neighbourhood, although we did not fall in with them, as many of the canoes in this district were made from the bark of this tree; although the greater number were scooped out of the trunks of the fir tribe.

"On crossing the St. Lawrence to Montreal, we were much surprised to see the great difference which the Canadian winter produces upon the species of ornamental trees: as examples may be mentioned the *Ailantus glandulosa*, the trees here being quite small and stunted; the osage orange, *Maclura aurantiaca*, seemed barely alive; mulberries were small and unhealthy; weeping willows are almost always killed in winter, although in the neighbourhood of New York the stem of this tree is seen averaging from eight to fifteen, and sometimes twenty feet in circumference. None of the Catalpa trees and Magnolias, which prove so ornamental in the pleasure-grounds both of New York and Philadelphia, can be made to thrive here, with the exception of *Magnolia glauca*; and even these are in a very unhealthy condition. The deciduous cypress, *Cupressus disticha*, is also much dwarfed. Evergreens, with the exception of the fir tribe, were rarely to be seen. On visiting the gardens and nurseries in the neighbourhood, we were much gratified at finding them so well managed. On the garden walls we observed healthy trees of peaches, apricots and nectarines, having well-ripened wood, and every appearance of affording plentiful crops. Gooseberries and currants were in great abundance, with high-flavoured fruit, which is seldom to be met with in the gardens of the United States; apples were plentiful, but pears rather scarce. Vines trained on espaliers had a promising appearance.

"In the nursery-grounds the fruit and flower departments seem to receive the most attention. Few of the indigenous plants are cultivated, although considerable quantities of the genera *Cypripedium, Trillium, Orchis, Habenaria, Goodyera, Calypso, Pagonia* and *Sarracenia*, procured from their native habitats when in flower, lay stored in boxes for sale and barter with the British merchants.

"We next proceeded to the Montreal Mountain, situated to the north-west of the town. A number of fine specimens of the sugar-maple were seen, with a great mixture of shrubby plants. The lime-trees, *Tilia americana*, had a singular and beautiful effect, from the large size of their foliage; some of the leaves measured thirteen inches long and eleven broad. Very few herbaceous plants were obtained, owing to the penetrating rays of the sun having scorched everything. In very shady places, particularly on the north and east side of the mountain, we procured a few good specimens, in flower, of *Orchis macrophylla, Corallorhiza multiflora, Aralia hispida* and *ramosa, Aster acuminata, Aspidium bulbiferum*, which, with the *Cyperus retro-fractus* from the most exposed places, formed the most interesting part of our collections. After some difficulty we reached the summit, and the view as seen around was truly grand. We beheld

the St. Lawrence winding its way through a vast extent of level country, while in various parts extensive wooded islands were seen obstructing its course. On descending the south side of the mountain, which is closely wooded, the thermometer indicated 89° of Fahrenheit. The exertion caused by ascending and descending was severe; and owing to the parched state of the ground, and the flaccid vegetables with which it was covered, walking was rendered nearly as difficult as over sea-weeds on a rocky shore."

At this meeting the election of office-bearers for the ensuing year took place, when Dr. Douglas Maclagan was chosen President; and Professor Graham, Drs. Lowe, Greville and Seller, Vice-Presidents.

GEOLOGICAL SOCIETY.

Nov. 20, 1844.—A paper was read "On the Geology of Gibraltar." By J. Smith, Esq., of Jordan Hill.

The great rocky masses terminating Europe on the S.W. and Africa on the N.W., and cut through by the Straits of Gibraltar, consist of siliceous sandstones, associated with limestone, chert, shale and coal, all apparently of the oolitic formation. The Gibraltar limestone contains casts of *Terebratula fimbria* and *T. concinna*, species found in Britain in the lower oolite. The covering of the older rocks consists of soil, river alluvium, post-tertiary marine sands, and local patches of diluvium. Wherever the covering is removed, the surface of the rock beneath is seen to be water-worn. The rock of Gibraltar is 1470 feet high. The southern extremity is marked by a triple series of terraces and inland cliffs, formed by the sea at former levels. Its northern terminates in a perpendicular cliff. The elevated part is divided into three distinct eminences, the effects of different local upheavals. The northern of these (the rock gun) does not appear to have undergone any derangement in its stratification since its first upheaval, although it must have been subjected to many elevations and depressions of level. Its older beds (those of the limestone) dip west at an angle of 20°, and those formed since the elevation are horizontal, remaining in their natural position. In this state the whole of the rock must have remained for a lengthened period, until a second upheaval broke it across, leaving the northern portion in its original position, but lifting the whole of the southern 20° more, so that its beds, which formerly dipped 20° west, now dip 40°; and the fresh deposits, formerly horizontal, 20°. On these deposits, others, formed after the upheaval, rest unconformably. A third upheaval in the same direction, but still further to the south, lifted the rock there about 20° more, leaving the northern and middle hills in their former position, but inclining the southern 60°. Thus we have four distinct epochs; of the deposits formed during each we have remains, and at Martin's Cave the whole may be seen in juxtaposition. Immediately under O'Hara's tower, the highest peak, the inclination of the beds to the west is nearly 80°, and a short way to the south of it, they are vertical. Under this point there is, at the height of about